## WHAT IS CLAIMED IS:

1. A compound of structural formula I:

$$R^{1} \xrightarrow{R^{6}} R^{3} \xrightarrow{O} R^{5}$$

**(I)** 

5 or a pharmaceutically acceptable salt thereof, wherein;

R<sup>1</sup> is selected from:

- (1) aryl,
- (2) aryl-C<sub>1-4</sub>alkyl,
- (3) heteroaryl,
- 10 (4) heteroaryl-C<sub>1-4</sub>alkyl,

wherein each alkyl is optionally substituted with one to four substituents independently selected from R<sup>2</sup>, and each aryl and heteroaryl are optionally substituted with one to four substituents independently selected from R<sup>b</sup>;

R<sup>2</sup> is selected from:

15 (1)  $C_{1-10}$ alkyl,

- (2) C<sub>3-10</sub>cycloalkyl-C<sub>1-4</sub>alkyl,
- (3) cycloheteroalkyl,
- (4) cycloheteroalkyl-C<sub>1-4</sub>alkyl,
- (5) aryl,

20 (6) aryl-C<sub>1</sub>-4alkyl,

- (7) heteroaryl, and
- (8) heteroaryl-C<sub>1-4</sub>alkyl,

wherein each alkyl is optionally substituted with one to four substituents independently selected from R<sup>a</sup>, and each cycloalkyl, cycloheteroalkyl, aryl and heteroaryl is optionally substituted with one to four substituents independently selected from R<sup>b</sup>;

R<sup>3</sup> is selected from:

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- (1) hydrogen, and
- (2) C<sub>1-4</sub>alkyl,

wherein each alkyl is optionally substituted with one to four substituents independently selected from R<sup>a</sup>:

R4 is selected from:

(1) hydrogen, and

(2) C<sub>1-4</sub>alkyl,

wherein each alkyl is optionally substituted with one to four substituents independently selected from R<sup>a</sup>;

## R<sup>5</sup> is selected from:

- 5 (1)  $C_{1-10}$ alkyl,
  - (2) C<sub>2-10</sub>alkenyl,
  - (3) C<sub>3-10</sub>cycloalkyl,
  - (4) C<sub>3-10</sub>cycloalkyl-C<sub>1-10</sub>alkyl,
  - (5) cycloheteroalkyl-C1-10alkyl,
- 10 (6) aryl-C<sub>1-10</sub>alkyl,
  - (7) diaryl-C<sub>1-10</sub>alkyl,
  - (8) aryl-C2-10alkenyl,
  - (9) heteroaryl-C<sub>1-10</sub>alkyl,
  - (10) -ORd,
- 15  $(11) -S(O)_m R^d$ , and
  - (12) -NRcRd,

wherein alkyl, alkenyl, cycloalkyl, and cycloheteroalkyl are optionally substituted with one to four substituents independently selected from R<sup>a</sup> and cycloalkyl, cycloheteroalkyl, aryl and heteroaryl are optionally substituted with one to four substituents independently selected from R<sup>b</sup>, provided that R<sup>5</sup> is not –CH=CH-COOH;

## R6 is selected from:

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- (1) C<sub>1-4</sub>alkyl,
- (2) C<sub>2-4</sub>alkenyl,
- (3) C<sub>2-4</sub>alkynyl,
- 25 (4) -ORd,
  - (5) halogen,
  - (6) -CN, and
  - (7) -NRcRd,

wherein alkyl, alkenyl, and alkynyl are optionally substituted with one to four substituents independently selected from R<sup>a</sup>;

## each Ra is independently selected from:

- (1) -ORd.
- (2)  $-NR^{c}S(O)_{m}R^{d}$ ,
- (3) halogen,
- 35 (4)  $-S(O)_{m}Rd$ ,

- (5)  $-S(O)_{m}NR^{c}R^{d}$ ,
- (6) -NRcRd.
- (7) -C(O)Rd
- (8) -CO<sub>2</sub>R<sup>d</sup>,
- 5 (9) -CN,
  - (10) -C(O)NRcRd,
  - (11) -NRCC(O)Rd,
  - (12) -NRCC(O)ORd,
  - (13) -NRCC(O)NRCRd,
- 10 (14) -CF<sub>3</sub>,
  - (15) -OCF3, and
  - (16) cycloheteroalkyl;

each Rb is independently selected from:

- (1)  $R^a$ ,
- 15 (2)  $C_{1-10}$ alkyl,
  - (3) oxo,
  - (4) aryl,
  - (5) arylC<sub>1-4</sub>alkyl,
  - (6) heteroaryl, and
- 20 (7) heteroarylC<sub>1.4</sub>alkyl;

R<sup>c</sup> and R<sup>d</sup> are independently selected from:

- (1) hydrogen,
- (2) C<sub>1-10</sub>alkyl,
- (3) C<sub>2-10</sub> alkenyl,
- 25 (4) cycloalkyl,
  - (5) cycloalkyl-C<sub>1-10</sub>alkyl;
  - (6) cycloheteroalkyl,
  - (7) cycloheteroalkyl-C<sub>1-10</sub> alkyl;
  - (8) aryl,
- 30 (9) heteroaryl,

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- (10) aryl-C<sub>1-10</sub>alkyl, and
- (11) heteroaryl-C<sub>1-10</sub>alkyl, or

R<sup>c</sup> and R<sup>d</sup> together with the atom(s) to which they are attached form a heterocyclic ring of 4 to 7 members containing 0-2 additional heteroatoms independently selected from oxygen, sulfur and N-Rg, each R<sup>c</sup> and R<sup>d</sup> may be unsubstituted or substituted with one to three substituents selected from Rh;

each Rg is independently selected from:  $C_{1-10}$ alkyl, and  $-C(O)R^c$ ; each  $R^h$  is independently selected from:

- (1) halogen,
- (2)  $C_{1-10}$ alkyl,
- (3) -O C<sub>1-4</sub>alkyl,

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- (4)  $-S(O)_m C_{1-4}$ alkyl,
- (5) -CN,
- (6) -CF3, and
- (7) -OCF3; and
- m is selected from 0, 1 and 2.
  - 2. The compound according to Claim 1, wherein R<sup>4</sup> is selected from:
  - (1) hydrogen, and
  - (2) methyl;
- and pharmaceutically acceptable salts thereof.
  - 3. The compound according to Claim 2, wherein R<sup>4</sup> is hydrogen; and pharmaceutically acceptable salts thereof.
- 4. The compound according to Claim 2, wherein R<sup>3</sup> is selected from hydrogen, methyl and ethyl; and pharmaceutically acceptable salts thereof.
  - 5. The compound according to Claim 3, wherein R<sup>3</sup> is methyl; and pharmaceutically acceptable salts thereof.

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- 6. The compound according to Claim 4, wherein R<sup>1</sup> is selected from:
- (1) phenyl,
- (2) phenyl-C<sub>1-4</sub>alkyl,
- (3) pyridyl, and
- 30 (4) pyridyl- $C_1$ -4alkyl,

wherein each phenyl and pyridyl is optionally substituted with one or two substituents selected from halogen, methyl, trifluoromethyl, cyano and methoxy, and each pyridyl is optionally present as the Noxide;

and pharmaceutically acceptable salts thereof.

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7. The compound according to Claim 5, wherein R<sup>1</sup> is phenyl, unsubstituted or substituted with a halogen or cyano substituent; and pharmaceutically acceptable salts thereof.

- 8. The compound according to Claim 6, wherein R<sup>2</sup> is selected from:
- 5 (1) isopropyl,
  - (2) isobutyl,
  - (3) n-propyl,
  - (4) n-butyl
  - (5) cyclopropylmethyl,
- 10 (6) cyclobutylmethyl,
  - (7) cyclopentylmethyl,
  - (8) cyclohexylmethyl,
  - (9) phenyl,
  - (10) benzyl,
- 15 (11) phenylethyl,
  - (12) 3-phenylpropyl,
  - (13) 2-phenylpropyl, and
  - (14) pyridylmethyl,

wherein each cycloalkyl, aryl and heteroaryl is optionally substituted with one or two R<sup>b</sup> substituents selected from halogen, trifluoromethyl, cyano, methoxycarbonyl, and methoxy; and pharmaceutically acceptable salts thereof.

9. The compound according to Claim 7, wherein R<sup>2</sup> is 4-chlorobenzyl, and pharmaceutically acceptable salts thereof.

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- 10. The compound according to Claim 9, wherein R6 is selected from:
- (1) methyl,
- (2) hydroxyl,
- (3) halogen, and

30 (4) –CN;

and pharmaceutically acceptable salts thereof.

- 11. The compound according to Claim 9, wherein R<sup>5</sup> is selected from:
- (1) C<sub>1-8</sub>alkyl,
- 35 (2) C<sub>2-8</sub>alkenyl,

- (3) cycloheteroalkyl-C<sub>1-8</sub>alkyl,
- (4) aryl-C<sub>1-8</sub>alkyl,
- (5) diaryl-C<sub>1-4</sub>alkyl,
- (6) aryl-C2-8alkenyl,
- (7) heteroaryl-C<sub>1</sub>-8alkyl,
- (8) -ORd, and
- (9) -NRcRd.

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wherein each alkyl or alkenyl is optionally substituted with one or two substituents independently selected from R<sup>a</sup>, and each cycloalkyl, cycloheteroalkyl, aryl and heteroaryl is each optionally substituted with one to three substituents independently selected from R<sup>b</sup> and wherein cycloheteroalkyl is selected from pyrrolidinyl, 2H-phthalazinyl, azabicyclo[2.2.1]heptanyl, benzoxapinyl, morpholinyl, piperazinyl, dihydroimidazo[2,1-b]thiazolyl, and piperidinyl; aryl is selected from phenyl and naphthyl; and heteroaryl is selected from pyridyl, pyrimidinyl, pyridazinyl, pyrazolyl, triazolyl, benzothiazolyl, benzoxazolinyl, isoxazolyl, indolyl and thiazolyl;

- and pharmaceutically acceptable salts thereof.
  - 12. The compound according to Claim 10, wherein R<sup>5</sup> is selected from:
  - (1) C<sub>1-8</sub>alkyl substituted with -ORd or NRCRd.
  - (2) C<sub>2-8</sub> alkenyl substituted with ORd or NRCRd, and
- 20 (3) phenyl-C<sub>1-8</sub> alkyl wherein phenyl is substituted with one to three R<sup>b</sup> substitutents; and pharmaceutically acceptable salts thereof.
  - 13. The compound according to Claim 12, wherein R<sup>5</sup> is:

- and pharmaceutically acceptable salts thereof.
  - 14. The compound according to Claim 1, selected from:

 $N-\{[3-(4-\text{chlorophenyl})-2-(3-\text{bromophenyl})-1,2-\text{dimethyl}]\text{propyl}\}-2-(5-\text{trifluoromethyl}-2-\text{pyridyloxy})-2-\text{methyl}\text{propanamide},$ 

30 *N*-{[3-(4-chlorophenyl)-2-cyano-2-phenyl-1-methyl]propyl}-2-(5-trifluoromethyl-2-pyridyloxy)-2-methylpropanamide,

N-{[3-(4-chlorophenyl)-2-(3-bromophenyl)-2-hydroxy]propyl}-2-(5-trifluoromethyl-2-pyridyloxy)-2-methylpropanamide,

N-{[3-(4-chlorophenyl)-2-(3-bromophenyl)-2-fluoro-1(S)-methyl]propyl}-2-(5-trifluoromethyl-2-pyridyloxy)-2-methylpropanamide,

- N-{[3-(4-chlorophenyl)-2-(3-cyanophenyl)-2-fluoro-1(S)-methyl]propyl}-2-(5-trifluoromethyl-2-pyridyloxy)-2-methylpropanamide,
- 5 N-{[3-(4-chlorophenyl)-2-(3-cynaophenyl)-1,2-dimethyl]propyl}-2-(5-trifluoromethyl-2-pyridyloxy)-2-methylpropanamide,
  - *N*-{[3-(4-chlorophenyl)-2-(3-bromophenyl)-2-hydroxy-1(S)-methyl]propyl}-2-(5-trifluoromethyl-2-pyridyloxy)-2-methylpropanamide,
  - N-{[3-(4-chlorophenyl)-2-(3-bromophenyl)-2-hydroxy-1(R)-methyl]propyl}-2-(5-trifluoromethyl-2-pyridyloxy)-2-methylpropanamide,
    - $1-\{[3-(4-chlorophenyl)-2-(3-cyanophenyl)-2-fluoro-1(S)-methyl]propyl\}-3-[2-(phenyl)ethyl)urea,\\ 1-\{[3-(4-chlorophenyl)-2-(3-cyanophenyl)-2-hydroxy-1(S)-methyl]propyl\}-3-[2-(4-chlorophenyl)ethyl)urea,$
    - 1-{[3-(4-chlorophenyl)-2-(3-cyanophenyl)-2-hydroxy-1(S)-methyl]propyl}-3-methyl-3-[2-(phenyl)ethyl)urea,
    - 1-{[3-(4-chlorophenyl)-2-(3-cyanophenyl)-2-hydroxy-1(S)-methyl]propyl}-3-[1-(4-chlorophenyl)ethyl)urea,
    - $N-\{[3-(4-\text{chlorophenyl})-2-(3-\text{cyanophenyl})-2-\text{hydroxy-1}(S)-\text{methyl}]\text{propyl}\}-2-\text{phenylbutanamide},$  $N-\{[3-(4-\text{chlorophenyl})-2-(3-\text{cyanophenyl})-2-\text{fluoro-1}(S)-\text{methyl}]\text{propyl}\}-1-\text{ethyl-1}$
- 20 cyclobutanecarboxamide,
  - $N-\{[3-(4-\text{chlorophenyl})-2-(3-\text{cyanophenyl})-2-\text{hydroxy-1}(S)-\text{methyl}]$  ropyl $\}-1$ -phenyl-cyclobutanecarboxamide,
  - N-{[3-(4-chlorophenyl)-2-(3-cyanophenyl)-2-hydroxy-1(S)-methyl]propyl}-2-phenyl-butanamide, and pharmaceutically acceptable salts thereof.
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- 15. A method of treating a disease mediated by the Cannabinoid-1 receptor comprising administration to a patient in need of such treatment of a therapeutically effective amount of a compound according to Claim 1.
- 30 16. The method according to Claim 15 wherein the disease mediated by the Cannabinoid-1 receptor is selected from: psychosis, memory deficit, cognitive disorders, migraine, neuropathy, neuro-inflammatory disorders, cerebral vascular accidents, head trauma, anxiety disorders, stress, epilepsy, Parkinson's disease, schizophrenia, substance abuse disorders, constipation, chronic intestinal pseudo-obstruction, cirrhosis of the liver, asthma, obesity, and other eating disorders associated with excessive food intake.

17. The method according to Claim 16 wherein the disease mediated by the Cannabinoid-1 receptor is an eating disorder associated with excessive food intake.

- 18. The method according to Claim 17 wherein the eating disorder associated with excessive food intake is selected from obesity, bulimia nervosa, and compulsive eating disorders.
  - 19. The method according to Claim 18 wherein the eating disorder associated with excessive food intake is obesity.
- 20. A method of preventing obesity in a person at risk for obesity comprising administration to said person of about 0.001 mg to about 100 mg per kg of a compound according to Claim 1.
  - 21. A composition comprising a compound according to Claim 1 and a pharmaceutically acceptable carrier.
  - 22. The use of a compound according to Claim 1, for the manufacture of a medicament useful for the treatment of a disease mediated by the Cannabinoid-1 receptor in a human patient in need of such treatment.
- 23. The use according to Claim 22 wherein the disease mediated by the Cannabinoid-1 receptor is selected from: psychosis, memory deficit, cognitive disorders, migraine, neuropathy, neuroinflammatory disorders, cerebral vascular accidents, head trauma, anxiety disorders, stress, epilepsy, Parkinson's disease, schizophrenia, substance abuse disorders, constipation, chronic intestinal pseudo-obstruction, cirrhosis of the liver, asthma, obesity, and other eating disorders associated with excessive food intake.
  - 24. The use according to Claim 23 wherein the disease mediated by the Cannabinoid-1 receptor is an eating disorder associated with excessive food intake.
- The use according to Claim 24, wherein the eating disorder associated with excessive food intake is selected from obesity, bulimia nervosa, and compulsive eating disorders.
  - 26. The use according to Claim 25 wherein the eating disorder associated with excessive food intake is obesity.

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27. The use of a compound according to Claim 1 for the manufacture of a medicament for the prevention of obesity in a person at risk therefor.